

Application Serial No. 09/576,989

Cancel claims 2, 25-28, 30-40, 45-60, 71 and 76-85 without prejudice or disclaimer.

1. (Amended) A polynucleotide comprising a non-naturally occurring HCV sequence that is capable of productive replication in a host cell, or is capable of being transcribed into a non-naturally occurring HCV sequence that is capable of productive replication in a host cell, wherein the HCV sequence comprises, from 5' to 3' on the positive-sense nucleic acid, a functional 5' non-translated region (5' NTR); one or more protein coding regions, including at least one polyprotein coding region that is capable of replicating HCV RNA; and a functional HCV 3' non-translated region (3' NTR) and wherein said polypeptide further comprises an adaptive mutation.

3. (Amended) The polynucleotide of claim [2] 1, having a transfection efficiency into mammalian cells of greater than 0.01%.

7. (Amended) The polynucleotide of claim [2] 1, wherein the polynucleotide is capable of replication in a non-hepatic cell.

9. (Amended) The polynucleotide of claim [2] 1, wherein the HCV is impaired in its ability to cause disease, establish chronic infections, trigger autoimmune responses, and transform cells.

10. (Amended) The polynucleotide of claim [2] 1, wherein the polyprotein region comprises an NS5A gene that is not a wild-type NS5A gene.

29. (Amended) The polynucleotide of claim [26] 1, wherein the transfection efficiency into mammalian cells is about 6%

65. (Amended) The vector of claim 64, [further comprising] wherein the adaptive mutation comprises a mutation in the NS5A gene.